**K-5 Math Lesson Plan**

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| **Teacher: Flick** | | | **Grade: 3** | | | **Date(s)**: LP2 August 28, 2012 |
| **Unit Title: Unit 1 -** Place Value with Addition and Subtraction within 1,000 | | | | **Corresponding Unit Task:** Taught prior to Performance Task 1; ***This lesson will mainly focus on number recognition and basic place value understanding.*** | | |
| **Essential Question(s):**   * How does place value understanding help me add and subtract numbers? * Why do I need to know multiple strategies to add and subtract numbers? * What strategies can I use to add and subtract multi-digit numbers? | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher:**   * Elmo/Projector * Chart paper * Projector or TV connected to computer * Powerpoint “Place Value” * Place value chart * Sticky notes * PSJ labels | | **Student:**   * Base Ten blocks per student * Place value mat per student * Mini-white board & dry erase marker per student * Sentence strips per student * Two different color markers per student/group * Number cards or number tiles 0-9 per pair * Notebook paper * Modified “Expanded Form” worksheet per student * Problem Solving Journal (PSJ) * Planner | | | **Supporting vocabulary:** digit, value, least, greatest  **Essential vocabulary:** place value, ones, tens, hundreds | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  √ 1. Make sense of problems and persevere in solving them.  √ 2. Reason abstractly and quantitatively.  √ 3. Construct viable arguments and critique the reasoning of others.  √ 4. Model with mathematics.  √ 5. Use appropriate tools strategically.  √ 6. Attend to precision.  √ 7. Look for and make use of structure.  √ 8. Look for and express regularity in repeated reasoning.. | **Common Core State Standards: 3.NBT.1 *(correlates to NCSCOS objective 1.01)*** Use place value understanding to round whole numbers to the nearest 10 or 100. | | | | | |
| **I Can Statement(s):**   * I can recognize numbers from 0 to 1,000. * I can recognize numbers displayed in standard form, word form, expanded form, and picture form. * I can demonstrate/model numbers using standard form, word form, expanded form, and picture form. * I can read numbers having one, two, three, and four digits. | | | | | |
| **Activating Strategy/Hook:**  Show the power point, “Place Value”, by clicking on the hyperlink below.  [**http://www.pasadenaisd.org/teachertoolbox/PPts/Place%20Value.pps**](http://www.pasadenaisd.org/teachertoolbox/PPts/Place%20Value.pps)  Students will work with the power point using their Base Ten blocks, mat, and white boards/markers. | | | | | |
| **Teacher Directed:**  Say: *Today we are going to continue learning to represent numbers having three-digits. We already know how to represent numbers using Base Ten blocks and picture form.* Write the number 252 on the board. Begin creating an anchor chart titled “Forms/ways to Represent Numbers”. As you introduce each form, record it and an example on the anchor chart to be displayed in the classroom. Review ***picture form*** from yesterday, and record it on the anchor chart.  Discuss ***standard form***. Have students stand up normally, just like **STAND**ard form – it’s the number written in its’ natural state. This is the way they have been writing numbers all along!  Next introduce ***expanded form*** (students were exposed to this briefly during the activator).  As students are standing, have them stretch out their arms at their sides creating a plus sign. Say: *Just like expanded form: you stretch a number out and put plus signs in between the numbers*. Be very animated with this movement… stretching it out. Next model for students how to write a number in expanded form. Reconstruct/redisplay the place value chart on the Elmo. Plug in the standard form of the number:  Say: *The chart shows the value of the 2 in the hundreds place is 200.. 5 is 50… the 2 in the ones place is 2.*   |  |  |  | | --- | --- | --- | | HUNDREDS | TENS | ONES | | 2 | 5 | 2 | | (200) | (50) | (2) |   So: 200 + 50 + 2 = 252  It may be helpful to show students expanded form as a multi-digit addition problem, lining up all the places (see example below).  H T O  2 0 0  5 0  + 2  2 5 2 | | | | | |
| **Guided Practice:**  Hold up number cards with numbers written in standard form. Have students write the expanded form of the number on their white board and hold it up. Visually assess student understanding. Continue with examples as necessary.  Have students choose a three digit number and record it on their white board. Then, instruct students to represent that number in expanded form. Circulate and check for accuracy. When students have correctly represented their number using expanded form, provide them with a sentence strip and instruct them to write the expanded form on their sentence strip in pencil only. Next, instruct students to choose one color marker and trace all the zeros and plus signs in that color. With the second color marker, trace the digit (see example below):  *Standard form number:* 599  *Written on mini white board*  *Expanded form number:* 500 + 90 + 9  *On sentence strip:*  500 + 90 + 9  Finally, have students fold their sentence strip so that the nine touches the five and the nine touches the nine (see example below):  5 9 9  *fold lines*  This will allow students to be able to manipulate stretching a standard form number out into expanded form and vice versa. Students should save these in their folders or math binders for reference.  *Partner Activity:*  Break students into cooperative pairs. Provide each pair a set of number cards or number tiles 0-9 and a place value mat. Students will take turns drawing a card/tile (3 total per round). As the number is drawn, the student who is drawing the digit decides where to place it on the place value mat. Once the card/tile is placed it cannot be moved. Both partners should take turns reading the number out loud, then writing it in standard form and expanded form on their paper. Partners should compare the way they wrote and said the numbers. | | | | | |
| **Independent Practice:**  Students will complete “Expanded Form” worksheet independently at their desks. (Modify this worksheet, omitting the word form column.) This can be used as a quiz grade. | | | | | |
| **Closing/Summarizing Strategy:**  Review the lesson: Discuss the first three “I can” statements listed above with standard and expanded forms. Have students discuss their feelings (Think-Pair-Share): *Can you? Why or why not? What do I need more practice on?* Students will write any questions or areas needing more assistance in the “parking lot”.  Assign homework: Problem Solving Journal (PSJ) problem:  *Think about the number 738.*   * *Explain the value of each digit.* * *Explain the difference between expanded and standard form. Use 738 to show examples.* | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Provide greater numbers for students to work with during the guided practice activities. | | | Scale back, representing numbers with one digit, then moving onto two digits, and finally three digits.  Begin with ***only*** standard and picture (Base Ten) forms. In subsequent lessons, move to expanded form. | | | Students play Math Match game: <http://www.fuelthebrain.com/Printable/detail.php?ID=3> (You will have to download the free printable cards and reproduce enough for your students. You may need to modify the deck for some students.) |
| **Assessment(s):**   * PSJ work from last night’s homework. * Visual assessments on-going throughout the lesson. * Independent activity. * Student self -assessment of the lesson and feedback in the parking lot. | | | | | | |
| **Teacher Reflection:** (Next steps?) | | | | | | |